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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/787,051	06/11/2001	Emmanuel Salvador Viana Manlapig	8436.82USWO	1102

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EXAMINER

LITHGOW, THOMAS M

ART UNIT	PAPER NUMBER
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1724

DATE MAILED: 07/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/787,051

Applicant(s)

MANLAPIG ET AL.

Examiner

Thomas M. Lithgow

Art Unit

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) none is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: *THM*

## **DETAILED ACTION**

### ***Specification***

1. The disclosure is objected to because of the following informalities:  
The specification should specifically identify "Eh" by name at least the first time "Eh" is employed. Further the specification does not correspond well with figure 4. There is no 10, 50, 52, 53 etc. and clarification is requested.  
Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The scope of the phrase "without the need for a collector" is unclear. It is unclear if the above phrase means a. flotation is conducted with no collector or b. the slurry is subjected to flotation with no xanthate collector- (see claim 15, 17)- or c.

although you could conduct the flotation with no collector it is better to use some collector although at a reduced quantity than conventionally used or

d. the phrase has no impact on how the flotation is operated as long as the "Eh" is in the predetermined range. It appears the specification supports all four versions of the phrase. Clarification is required. The claims should clearly identify what property of the slurry "Eh" is suppose to represent and not employ shorthand that may lead to unclear interpretations of Eh. See the specification in this regard also. The types of cells recited in claim 11 is unclear. In claim 16 , "the mineral ore" lacks antecedent basis. Claims 15 and 17 recite "without the need of a xanthate collector" and "using a non-xanthate collector". Both phrases may be at odds with the scope of claim 1- see above. Claim 18, the term "scalper" is unclear and further the phrase "the valuable sulfide mineral" lacks antecedent basis. Claim 20 "the remainder of the flotation circuit" lacks antecedent basis.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-5, 9-10, 13 15-18 and 20 are rejected under 35

U.S.C. 102(b) as being anticipated by Heimala (US 4561970). Heimala '970 discloses process for the separation and recovery of valuable sulfides from other less valuable minerals (including other sulfides) in a flotation process using measurement of oxidation-reduction (Redox) potentials as a basis for the separation control. It is noted that under some conditions the flotation of chalcopyrite may be accomplished by employing "no collector" by means of controlling the Redox potential (col. 5, lines 15-20). Heimala discloses that elemental sulfur acts as the "collector" in the "no collector" separation. Claim 2 of Heimala discloses the use of the Redox controlled formation of the "collector" with out directly adding any traditional collector.

5. Claims 1-5, 9-10, and 12-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Australasian IMME- 1984 (AIMME). AIMME discloses the self induced flotation of many minerals by controlling the Ox-Red Potentials of the pulp slurry containing the mineral species. As shown of page 119 the flotatability of many minerals are presented including chalcopyrite (Cp)and chalcocite (Cc).

6. Claims 1-5, 9-10, 12-13, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Ahn (International Journal of Mineral Processing).

Ahn discloses the self-induced flotation of chalcopyrite by controlling the ORP of the flotation pulp.

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 6-8, 11 and 19 rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art as applied to claims 1,1 and 18 respectively and further in view of Kennedy (Mining Magazine - October 1990). The use of Jameson cell with a low residence time in the flotation of mineral ores is well known as taught by Kennedy. The use of a specific flotation cell for its intended use is generally within the ordinary skill in the art. Page 283 ,

center column, notes the residence time in the Jameson cell is around 1 minute and that an easily oxidizable mineral entity (HMP slimes) required the use of a low residence time cell. Clearly the Redox potential is known to be affected by the oxidizing effect of the air (79% oxygen) employed in flotation. The use of the low residency time cell mitigated the effects of the ongoing oxidation allowing better control and a more efficient result. To so employ such a flotation cell for the self-induced flotation of Redox potential controlled flotation separations would have been obvious to one of ordinary skill in the art at the time of the invention.

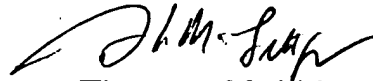
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas M. Lithgow whose telephone number is 703-308-0173. The examiner can normally be reached on Mon. -Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blain Copenheaver can be reached on 703-308-1261. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3602 for regular communications and 305-3599 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Thomas M. Lithgow  
Primary Examiner  
Art Unit 1724

TML  
July 24, 2003